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cont
a first coil wire connected to the first commutator, and wound on bottoms of the slots of said iron core to form an inner coil;

a second coil wire connected to the second commutator, and wound on said inner coil in the slots of said iron core to form an outer coil;

a first terminal that can be connected to a first power source to supply electric power of said first power source to said first coil wire through said first commutator; and

a second terminal that can be connected to a second power source to supply electric power of said second power source to said second coil wire through said second commutator;

wherein a diameter of said second coil wire is smaller than that of said first coil wire.

2. (Amended) The commutator motor as set forth in claim 1, wherein:

a winding start position of said second coil wire of said outer coil is displaced at 90 degrees about said iron core with respect to a winding end position of said first coil wire of said inner coil.

3. (Amended) The commutator motor as set forth in claim 1, wherein:

said first terminal is adapted for use in a DC power source for supplying a large current that works as said first power source,

said second terminal is adapted for use in an AC power source for supplying a small current that works as said second power source, and

said inner and outer coils are formed such that a motor output provided by use of said first power source is substantially equivalent to the motor output provided by use of said second power source.